

## FSB Role Description – FSW Systems Manager (SM)

### Roles & Responsibilities

- Complete technical and management oversight responsibility, from both a Project and FSB/ISD/AETD point of view, for the full set of flight software and associated test software on a mission regardless of whether elements of the FSW are developed in-house or via contracted arrangements. Ensures the quality and timeliness of each mission FSW Product.
- Reports directly to mission Project Management and FSB management.
- Responsible for FSW content of each RFP associated with a mission (e.g., spacecraft RFP, each instrument RFP).
- Assists in development of mission data flows and operations concepts with a focus on flight hardware appropriateness, flight interfaces and ground impacts.
- Provides end-to-end systems engineering across the entire range of mission FSW elements, dependencies, and interfaces. Ensures that all FSW management and technical requirements, interfaces, architectures, schedules, costs, dependencies, processes, staff, management and communications are effective and minimize risks.
- Ensures that FSW products are being completed in a coordinated manner that will converge appropriately at mission I&T milestones.
- Influences the ground system capabilities, interfaces and schedules to facilitate FSW team productivity.
- Ensures that the FSW test environments are appropriate fidelity and quantity for development testing, requirements verification testing, systems/acceptance test and on-orbit FSW maintenance.
- Ensures that NASA-acceptable Software Guidelines (or FSB guidelines) are adhered to by each FSW product development organization.
- Responsible for development and maintenance of the Project level FSW Subsystem Requirements documentation, in conjunction with other Project staff and FSW Product Development Leads. Ensures that the derived detailed FSW requirements are traceable to parent documents and that the requirements are complete, reviewed and approved by the development organizations and the Project. Ensures rigorous maintenance and controls of all FSW requirements documentation.
- Ensures effective FSW maintenance plans.
- Identifies risks that could impact FSW from any area of the Project. Recommends risk avoidance and mitigations. Works with other Project management and external subsystem organizations as necessary to minimize risks to the FSW products, costs and schedules. Tracks FSW risk status of each FSW team.
- Provides formal status and risk reports at least monthly to Project management and FSB management. Reports risks and status even when Project decisions to accept risks have been made.
- Ensures that a full history of technical and programmatic reasons for all changes from the original plan is maintained.
- Ensures that team resource estimates and actuals are effectively captured for each of the FSW development efforts. Specifically, changes in FSW staffing, cost, and schedule are required to be provided to FSB management at start of activity, PDR, CDR, start of I&T, end of I&T and end of On-orbit Verification.
- Serves as Project liaison to the NASA WV IV&V in terms of negotiations of product definitions and interfaces to technical teams. Reports on IV&V

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activities to the Project.

- Provides constructive inputs to branch management regarding the performance contributions of each member of the team. Additionally provides constructive suggestions for improvement and growth. Provides substantive recommended performance plan elements for each staff member on a fiscal year basis. As requested or appropriate, provides similar input to contractor management regarding contractor staff performance on the team.
  - Provides recommendations to the FSW Branch Standards CCB regarding desired improvements to approved and draft FSW Branch standards and processes. Identifies the need for new FSW development, test, operations, and maintenance standards and processes.
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**Ownership and  
Approval  
Authority**

The FSW Branch Head is the owner of this role description. The FSB Standards CCB has approval authority.

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**Change  
History**

Version	Date	Change
1.4	06/30/06	DCR #175.
1.3	06/28/04	DCR #78 – change name from Position Description to Role Description.
1.2	01/27/04	DCR #40 - addition of requirements management words. DCR #43 - Improved Performance Plan words.
1.1	12/10/03	DCR #32 - addition of performance plan words.
1.0	08/22/03	Initial draft.